UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,018	07/22/2005	Satoshi Yuasa	03500.018032.	3951

5514 7590 06/19/2009

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
NGUYEN, KEVIN M	
ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
06/19/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/543,018	YUASA, SATOSHI	
	Examiner	Art Unit	
	KEVIN M. NGUYEN	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 July 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/22/05, 10/13/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Specification

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because page 15, lines 2-6 recited "Fig. 1 shows an example in which T1 : T2 is about 3 : 10, but such example is not restrictive and it is effective to have a T2/TI value within a range of 1.5 to 20, preferably within a range of 2 to 6" in which T1 and T2 are not found in the figure 1.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood: "a periodical planar arrangement of a plurality of light modulating elements for modulating a color or a brightness of an incident light in response to an input signal, wherein

the arrangement period of the light modulating element in the first light modulating layer is smaller than the arrangement period of the light modulating element in the second light modulating layer."

Regarding claim 11, lines 10-14 recited the term "a spatial frequency component of a drive signal applied to the first light modulating layer is higher than a spatial frequency component of a drive signal applied to the second light modulating layer."

Regarding claim 12, lines 8-10 recited the term "modulating the brightness contains a large portion of high spatial frequency components."

Applicant is required to submit an amendment which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show "frequency, driving signal, period, T1, and T2" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the

remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Regarding claim 1, recited "a periodical planar arrangement of a plurality of light modulating elements for modulating a color or a brightness of an incident light in response to an input signal, wherein the arrangement period of the light modulating element in the first light modulating layer is smaller than the arrangement period of the light modulating element in the second light modulating layer" as being undefined, and incomprehensive.

Regarding claim 1, recited "a plurality of light modulating elements for modulating a color or a brightness of an incident light in response to an input signal" as being inconsistent and incomprehensive.

Specification, page 12, lines 14-17 recited "the modulation used herein means a change in a level of at least one phenomenon of transmission, absorption, reflection and refraction on an incident light in response to a control signal."

Claims 11, 12 and 13 include the same limitation as those of claim 1 are also rejected by the same reasons as set forth and discussed in the independent claim 1.

As a result, these terms have been given their broadest reasonable interpretation in applying prior art. For the sake of applying prior art, "periodical or period the light modulating element" is interpreted as "area or length of the light modulating element."

"a plurality of light modulating elements for modulating a color or a brightness of an incident light in response to an input signal" is interpreted as "a plurality of light modulating elements for modulating a color or a brightness of an incident light in response to an control signal."

Regarding claim 11, lines 10-14 recited the term "a spatial frequency component of a drive signal applied to the first light modulating layer is higher than a spatial frequency component of a drive signal applied to the second light modulating layer" as being unclear to clearly define, describe or identify in either the specification or the claims.

Regarding claim 12, lines 8-10 recited the term "modulating the brightness contains a large portion of high spatial frequency components" as being unclear to clearly define, describe or identify in either the specification or the claims.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "a spatial frequency component, and high spatial frequency component" in claims 11 and 12 is used by the claim to mean "whether the frequency of a direct current voltage of driver signal applied to the light modulating layers, or the frequency of the color", while the accepted meaning is "wavelength, or the color with a spectral power distribution, or the brightness/luminance of a color, or the color white is a bright color, or a less bright version of that same white." The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-10 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Jiang et al. (US 6,573,961).

Regarding claim 1, Jiang discloses an image display panel having, in a multilayer structure (figure 5A), a first light modulating layer (cholesteric liquid crystal CLC layer #1) and a second light modulating layer (CLC layer #2) each comprising a periodical planar arrangement

of a plurality of light modulating elements for modulating a color or a brightness of an incident light in response to an input signal (the layers is used with circularly polarizing spatial intensity modulation lights), wherein the arrangement period of the light modulating element in the first light modulating layer (green area, figure 5) is smaller than the arrangement period of the light modulating element in the second light modulating layer (blue area, figure 5, column 12, lines 15-40).

Regarding claim 3, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein said first light modulating layer is superposed on said second light modulating layer on an image observing side thereof (col. 17, lines 7-13; figure 13 of Jiang).

Regarding claim 4, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein said second light modulating layer comprises at least two different types of color modulating elements (col. 17, lines 10-13 of Jiang).

Regarding claim 5, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein said second light modulating layer comprises at least two different color modulating layers (col. 17, lines 10-13 of Jiang).

Regarding claim 6, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein the light modulating element of said first light modulating layer is capable of becoming an opaque black state (LP1 becomes dark state, figure 32A1).

Regarding claim 7, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein the light modulating element of said first light modulating layer changes between an opaque black state and a transparent state (LP1 becomes bight state, figure 32A2).

Regarding claim 8, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein the light modulating element of said second light modulating layer has a red state and a green state (bottom layer B has red "R" state, and green "G" state, figure 24C).

Regarding claim 9, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein the light modulating element of said second light modulating layer has a blue state and a white or transparent state (the bottom layer B has at least blue "B" state in GB, and clear "CLR" state, figure 24C).

Regarding claim 10, in the alternate embodiment, Jiang discloses the image display panel according to claim 1, wherein the light modulating element of said second light modulating layer includes a light modulating element having a red state and a green state, and a light modulating element having a blue state and a white or transparent state (the bottom layer B has the red "R" state, the green "G" state, the at least blue "B" state in GB, and the clear "CLR" state, figure 24C).

Regarding claim 13, Jiang discloses a method for driving an image display panel having at least two light modulating layers (CLC layer #1 and CLC # 2, figure 5) of a light modulating layer comprising a periodical planar arrangement of a plurality of light modulating elements for modulating a brightness of an incident light in response to an input signal and a light modulating layer comprising a periodical planar arrangement of a plurality of light modulating elements for modulating a color (figure 5, column 12, lines 15-40).

In the alternate embodiment, Jiang further disclose wherein such a drive as to compensate a position offset between said brightness modulating layer and said color modulating layer is conducted (col. 53, lines 30-59).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang et al. (US 6,573,961) in view of Arikawa (US 2002/0085155).

Regarding claim 2, Jiang discloses the image display panel according to claim 1, but does not disclose wherein said first light modulating layer comprises an arrangement of light modulating elements for modulating a brightness, and said second light modulating layer comprises an arrangement of light modulating elements for modulating a color.

Arikawa discloses the light modulation function or the light modulation property of the light modulation means includes frequency modulation which can change the hue, amplitude modulation which can change the brightness, and phase modulation which can change the color quality (paragraph 13.)

Thus, it would have been obvious to a person of ordinary skill at the time the invention was made to modify each of CLC layers of Jiang to change the brightness, and change the color quality, because this would improve the high quality of the image being displayed, while fabricating the device at low cost (paragraph 9 of Arikawa).

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jiang et al. (US 6,573,961) in view of Eguchi et al. (US 6,115,012).

Regarding claim 11, Jiang discloses a method for driving an image display panel having, in a multilayer structure (figure 5), a first light modulating layer (CLC layer #1) comprising a periodical planar arrangement of a plurality of light modulating elements for modulating a brightness of an incident light in response to an input signal and a second light modulating layer (CLC layer #2) comprising a periodical planar arrangement of a plurality of light modulating elements for modulating a color of an incident light in response to an input signal (figure 5, column 12, lines 15-40).

Jiang does not disclose a spatial frequency component of a drive signal applied to the first light modulating layer is higher than a spatial frequency component of a drive signal applied to the second light modulating layer.

Eguchi discloses high-frequency driving applied to the first light modulating layer shown in figure 6B is higher than low-frequency driving applied to the second light modulating layer shown in figure 6A (col. 7, lines 10-35).

Thus, it would have been obvious to a person of ordinary skill at the time the invention was made to modify Jiang to include high-frequency driving applied to the first light modulating layer shown in figure 6B is higher than low-frequency driving applied to the second light modulating layer shown in figure 6A disclosed by Eguchi, because this would continuously control the deflection angle of the optical deflection apparatus, col. 2, lines 25-30 of Eguchi.

Regarding claim 12, Jiang discloses a method for driving an image display panel having at least two light modulating layers (CLC layer #1 and CLC layer #2, figure 5) each comprising a

periodical planar arrangement of a plurality of light modulating elements for modulating a color or a brightness of an incident light in response to an input signal (figure 5, column 12, lines 15-40),

In the alternate embodiment, Jiang further discloses wherein, in a display area where a drive signal applied to said light modulating element for modulating the brightness, a drive signal applied to said light modulating element for modulating the color is so modified as to display a relatively brighter color (col. 53, lines 30-59).

Jiang does not disclose a large portion of high spatial frequency components.

Eguchi discloses high-frequency driving and low-frequency driving applied to the light modulating layers shown in figure 6B and 6A (col. 7, lines 10-35).

Thus, it would have been obvious to a person of ordinary skill at the time the invention was made to modify Jiang to include the high-frequency driving and low-frequency driving applied to the light modulating layers disclosed by Eguchi, because this would continuously control the deflection angle of the optical deflection apparatus, col. 2, lines 25-30 of Eguchi.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN M. NGUYEN whose telephone number is (571)272-7697. The examiner can normally be reached on Monday-Thursday from 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571)272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M Nguyen/
Primary Examiner, Art Unit 2629

/KMN/
June 19, 2009